Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is utilized to transfer rotating power from a prime mover, like for instance an electric motor or an internal combustion engine, to a rotating driven load. Like a basic fluid coupling, the torque converter takes the place of a mechanized clutch. This allows the load to be separated from the main power source. A torque converter can provide the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between input and output rotational speed.

The fluid coupling type is the most popular type of torque converter utilized in automobile transmissions. During the 1920's there were pendulum-based torque or likewise called Constantinesco converter. There are other mechanical designs used for always changeable transmissions that have the ability to multiply torque. Like for example, the Variomatic is one version which has expanding pulleys and a belt drive.

A fluid coupling is a 2 element drive which could not multiply torque. A torque converter has an extra part which is the stator. This changes the drive's characteristics all through occasions of high slippage and generates an increase in torque output.

Within a torque converter, there are a minimum of three rotating components: the turbine, in order to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the turbine and the impeller so that it could change oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under whichever situation and this is where the term stator begins from. In point of fact, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

In the three element design there have been alterations which have been integrated periodically. Where there is higher than normal torque manipulation is required, adjustments to the modifications have proven to be worthy. More often than not, these alterations have taken the form of multiple stators and turbines. Every set has been meant to generate differing amounts of torque multiplication. Several instances comprise the Dynaflow that utilizes a five element converter so as to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Even though it is not strictly a part of classic torque converter design, different automotive converters comprise a lock-up clutch so as to reduce heat and to improve cruising power transmission effectiveness. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical which eliminates losses connected with fluid drive.